



Australian Bureau of Statistics

6202.0.55.001 - Labour Force, Australia, Spreadsheets, Apr 2008

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Summary

Main Features

The **Labour Force, Australia, Spreadsheets** (cat. no. 6202.0.55.001) product set includes time series data corresponding to the tables contained in the **Labour Force, Australia** (cat. no. 6202.0) publication.

Since these products are based on the same data as the **Labour Force, Australia** (cat. no. 6202.0) publication, the **6202.0 Labour Force, Australia Main Features** are relevant to both releases.

IMPLEMENTATION OF NEW SAMPLE DESIGN

Following each Census of Population and Housing, the ABS selects a new sample for the Labour Force Survey. This is done to ensure that the sample continues to accurately represent the distribution of the Australian population. A new sample has recently been selected based on the 2006 Census. Detailed information about the new sample is provided in **Information Paper: Labour Force Survey Sample Design** (cat. no. 6269.0), which was released on 28 November 2007.

In order to reduce the potential impact of the change in sample on labour force statistics, the new sample is being introduced progressively, taking advantage of the existing rotation scheme. Using this scheme, the private dwelling sample in larger urban centres and less remote areas, representing approximately four-fifths of the total sample, will be phased in over the period November 2007 to June 2008. Within these areas, one-eighth of the new sample will be introduced each month under existing sample rotation arrangements.

The rest of the sample (in remote, less populated areas and for non-private dwellings) was introduced in two stages. The first stage, which occurred in March, was the introduction of this sample in New South Wales, Western Australia, Northern Territory and Australian Capital Territory. The second stage, which occurred in April, was the introduction of this sample in Victoria, Queensland, South Australia and Tasmania.

Due to the increased level of sample introduced this month there may be increased volatility in the estimates for Victoria, Queensland, South Australia and Tasmania.

Forthcoming Changes

FORTHCOMING CHANGES

BACKGROUND

Following the completion of the 5 yearly Census of Population and Housing, the ABS reviews the LFS sample design. The review ensures the survey accurately reflects the geographical distribution of the Australian population, and remains efficient and cost effective.

The outcome of the review based on 2006 Census data is being implemented over the period November 2007 to June 2008. In developing the 2006 sample design, the decision was made to achieve cost savings by taking advantage of the sampling efficiencies related to the introduction of composite estimation. This enabled an 11% reduction in the LFS sample with only minor reductions in data quality relative to the previous design. Full details of the 2006 sample design are presented in **Information Paper: Labour Force Survey Sample Design** (cat no. 6269.0).

RECENT DEVELOPMENTS

The ABS is facing a tight budget situation in 2008-09, which has led to a range of reductions in the ABS work program. One of the reductions is that from July 2008 the sample size of the LFS will be reduced by 24% when compared with the June 2008 sample being implemented under the 2006 sample design. The ABS is implementing this sample reduction in such a way that the sample can be easily increased again in the future should the ABS funding position change.

IMPLEMENTATION

The ABS will fully implement the sample reduction in July 2008. Implementing the full reduction in a single month will mean less common sample between June and July, and hence the standard error on movements will be slightly larger than if the reduction was phased-in. However, in order to maximise the savings in 2008/09 the reduced sample needs to be fully implemented from July 2008.

SAMPLE SIZE

Table 1 presents the expected number of persons in the LFS sample for June 2008 under the 2006 sample design, and the proposed LFS sample for July 2008 following the sample reduction. It should be noted that the sample size will gradually increase between sample redesigns due to population growth prior to the next sample redesign following the 2011 Census.

Table 1. Estimated Fully Responding Person Records

	June 2008	July 2008
New South Wales	12 900	9 600
Victoria	11 500	8 700
Queensland	9 600	7 300
South Australia	6 400	4 900
Western Australia	6 200	4 600
Tasmania	3 500	2 700
Northern Territory	2 100	1 700
Australian Capital Territory	2 200	1 600
Australia	54 400	41 100

QUALITY OF ESTIMATES

The new sample, while smaller, will still be representative, with selections made in all parts of Australia. There will be increased volatility in the estimates, particularly the original and seasonally adjusted estimates, but this volatility will be random. Given the increased volatility in the original and seasonally adjusted estimates, the ABS would continue to encourage users to focus on trend estimates as the increased volatility seen in the original and seasonally adjusted estimates will be dampened through the 'trending' process.

The most common way to quantify the volatility is to examine the relative standard errors (RSEs). Table 2 below shows the target RSEs following the 2006 sample design and introduction of composite estimation and the target RSEs for the sample from July 2008.

Table 2. LFS Relative Standard Errors

	Employment RSE		Unemployment RSE	
	2006 Target RSE(a)	2008 Target RSE	2006 Target RSE(a)	2008 Target RSE
	%	%	%	%
New South Wales	0.8	0.9	5.0	5.7
Victoria	0.8	0.9	5.3	6.1
Queensland	0.9	1.0	5.7	6.6
South Australia	1.1	1.3	6.8	7.7
Western Australia	1.0	1.1	7.1	8.1
Tasmania	1.5	1.7	8.3	9.5
Northern Territory	2.6	3.0	13.4	15.1
Australian Capital Territory	1.3	1.5	13.9	16.0
Australia	0.4	0.4	2.6	2.9

(a) Due to recent improvements, the 2006 RSEs for the NT and WA and also for unemployment in SA differ from those published in the information paper Labour Force Survey Sample Design, Australia. (cat. no. 6269.0).

Overall, the RSEs for estimates of employment and unemployment at the national, state and territory level are expected to be approximately 15% higher than those expected from the 2006 sample design. The impact of the increased RSEs is best demonstrated by consideration of the confidence intervals surrounding the respective estimates. By way of example, say the estimate for employment is 10,000,000. Under the 2006 design, there would be 19 chances in 20 that the real value falls within the range 9,932,600 to 10,067,400. With the reduction in sample from July 2008 that range will increase to 9,922,800 to 10,077,200. Similarly for unemployment, if the estimate is 500,000 then under the 2006 design, there would be 19 chances in 20 that the real value falls within the range 474,000 to 526,000. With the reduction in sample that range will increase to 470,200 to 529,800.

LFS PRODUCTS

Key monthly estimates from the LFS are published in **Labour Force, Australia** (cat. no. 6202.0). As well, there are a range of other products presenting detailed estimates from the LFS, which are available at the ABS website, www.abs.gov.au.

The sample reduction will also increase the standard error on the detailed estimates in these products by approximately 15%. Some of the estimates in these products, such as detailed

industry estimates for small states and territories, have always had high standard errors and the sample reduction will increase this number.

To assist users in understanding the quality of the estimates published, the ABS will be producing a new standard error model for the LFS. This model will be used to populate the standard error tables in this publication and to annotate those estimates in our products with an RSE of 25% or higher. Estimates with an RSE of 25% or higher should be used with caution. This new model will also be incorporated into the spreadsheet **Labour Force Survey Standard Errors, Datacube** (cat. no. 6298.0.55.001) to allow users to calculate the standard error for any LFS estimate.

ASSOCIATED SURVEYS

In addition to impacting on the LFS, the sample reduction will also affect the supplementary surveys which are conducted on part of the LFS sample and cover a range of different topics. Due to the infrequent nature of topics in the supplementary surveys, they do not benefit from the efficiency gains associated with composite estimation. As a result the sample reduction associated with the 2006 design is resulting in increased standard errors for these estimates. The further sample reduction to be introduced in July 2008 will increase the standard errors further. In combination, the sample reductions are expected to increase the standard error for estimates from supplementary topics by approximately 22% relative to the 2001 design. The level of disaggregation of estimates possible from these topics will be assessed as each topic is prepared for release. However, it is likely that the level of disaggregation will need to be reduced, especially for topics which relate to small sub populations.

The ABS also conducts a Multi Purpose Household Survey on part of the LFS sample each year. The impact of the sample reduction on the MPHS will not be as large as for the LFS or the supplementary topics as the MPHS sample size will be kept approximately the same after July 2008. Under the 2001 sample design, the MPHS sampled one-third of those dwellings in the LFS for the last month, which achieved a sample of 13,500 dwellings per year. Following the sample reduction, the proposal is to increase the proportion of dwellings sampled to 50% of those in the LFS for the last month. This proportion is expected to achieve a MPHS sample size of 13,000 dwellings per year.

About this Release

A set of Excel spreadsheets with summary results of the monthly Labour Force Survey containing estimates of employed and unemployed persons classified by sex, full-time/part-time status, states and territories and some age groups; and persons not in the labour force.

Explanatory Notes

Explanatory Notes

The **Labour Force, Australia, Spreadsheets** (cat. no. 6202.0.55.001) product set includes time series data corresponding to the tables contained in the **Labour Force, Australia** (cat.

no. 6202.0) publication.

Since these products are based on the same data as the **Labour Force, Australia** (cat. no. 6202.0) publication, the **6202.0 Labour Force, Australia Explanatory Notes** are relevant to all releases.

Quality Declaration - Summary

INSTITUTIONAL ENVIRONMENT

Labour Force statistics are compiled from the Labour Force Survey which is conducted each month throughout Australia as part of the Australian Bureau of Statistics (ABS) household survey program. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The Labour Force Survey provides monthly information about the labour market activity of Australia's resident civilian population aged 15 years and over. The Labour Force Survey is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory.

TIMELINESS

The Labour Force Survey enumeration begins on the Monday between the 6th and 12th of the month, except for the Christmas and New Year holiday period. In December enumerations starts between the 4th and 10th (4 weeks after November enumeration begins). In January enumeration starts between the 8th and 14th (5 weeks after December enumeration begins).

Key estimates from the Labour Force Survey are published in two stages. *Labour Force, Australia* (cat. no. 6202.0) and *Labour Force, Australia, Spreadsheets* (cat. no. 6202.0.55.001) are the first release. These data are released 31 days after the commencement of enumeration for the month, with the exception of estimates for December which are published 38 days after the commencement of enumeration.

Detailed data which were not part of the first release from the Labour Force Survey are published in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) and *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003), which are released one week after the initial release.

ACCURACY

The Labour Force Survey is based on a sample of private dwellings (approximately 30,000 houses, flats etc) and non-private dwellings, such as hotels and motels. The sample covers about 0.45% of the Australian Population. The Labour Force Survey is designed primarily to provide estimates of key labour force statistics for the whole of Australia and, secondarily,

for each state and territory.

Two types of error are possible in an estimate based on a sample survey: non-sampling error and sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of cooperation, with an average response rate for the last year being 97%.

Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Standard errors of key estimates and movements since the previous month are available in *Labour Force, Australia* (cat. no. 6202.0). The standard error of other estimates and movements may be calculated by using the spreadsheet contained in *Labour Force Survey Standard Errors, Data Cube* (cat. no. 6298.0).

COHERENCE

The ABS has been conducting the Labour Force Survey each month since February 1978. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the Labour Force Survey have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates. For a full list of changes made to the Labour Force Survey see *Labour Statistics: Concepts, Sources and Methods* (cat. no. 6102.0.55.001) Table 20.2.

INTERPRETABILITY

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series. Seasonal adjustment is a means of removing the effects of normal seasonal variation from the series so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular influences which may be present and therefore month-to-month movements may not be reliable indicators of underlying behaviour. To assist in interpreting the underlying behaviour, the ABS produces the trend series by smoothing the seasonally adjusted series to reduce the impact of the irregular component. For further information, see *A Guide to Interpreting Time Series - Monitoring Trends* (cat. no. 1349.0).

Further information on the terminology and other technical aspects associated with statistics

from the Labour Force Survey can be found in the publication *Labour Force, Australia* (cat. no. 6202.0), which contains detailed Explanatory Notes, Standard Error information and a Glossary.

ACCESSIBILITY

Please see the Related Information tab for the list of products that are available from this collection.

Standard Errors

Standard Errors

Estimates from the Labour Force Survey (LFS) are based on information collected from people in a sample of dwellings, rather than the entire population. Hence the estimates produced may differ from those that would have been produced if the entire population had been included in the survey. The most common measure of the likely difference (or 'sampling error') is the **standard error** (SE). New models for calculating standard errors for these estimates were introduced in November 2007, due to the progressive introduction of the new sample for LFS, currently taking place.

The ABS considers that estimates with a relative standard error of 25% or more may be subject to sampling variability too high for most practical purposes.

To indicate those cells in the spreadsheets with a relative standard error of 25% or more, annotations have been applied prior to dissemination.

In addition, the table below has been supplied to show estimates at which the relative standard error is 25%. Estimates of the size indicated in the tables, or smaller, are considered to be subject to sampling variability too high for most practical purposes.

For additional information on LFS standard errors see [Labour Force Survey Standard Errors, Data Cube](#) (cat. no. 6298.0.55.001) and the Explanatory Notes tab in [Labour Force, Australia](#) (cat. no. 6202.0).

State	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Employed									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	4.9	4.1	3.7	2.0	2.3	1.1	1.4	1.1	4.9
Nov 07	5.0	4.1	3.8	2.0	2.4	1.2	1.3	1.1	5.0
Dec 07	5.0	4.2	3.9	2.0	2.4	1.2	1.2	1.1	5.0
Jan 08	5.1	4.3	3.9	2.1	2.5	1.2	1.2	1.2	5.1
Feb 08	5.2	4.4	4.0	2.1	2.6	1.2	1.1	1.2	5.1
Mar 08	5.4	4.4	4.1	2.1	2.9	1.2	1.0	1.2	5.2

Apr 08	5.5	4.6	4.5	2.2	3.0	1.2	0.9	1.3	5.3
May 08	5.5	4.7	4.5	2.3	3.1	1.3	0.9	1.3	5.4
Jun 08	5.6	4.8	4.6	2.3	3.2	1.3	0.9	1.3	5.4
Onwards									
Unemployed									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	5.7	4.9	4.2	2.7	3.0	1.7	2.4	1.5	4.7
Nov 07	5.8	5.0	4.3	2.8	3.2	1.7	2.2	1.6	4.8
Dec 07	5.9	5.1	4.4	2.8	3.3	1.7	1.9	1.6	4.8
Jan 08	6.0	5.3	4.5	2.9	3.4	1.7	1.8	1.7	4.9
Feb 08	6.2	5.4	4.7	3.0	3.6	1.8	1.6	1.7	4.9
Mar 08	6.4	5.5	4.8	3.0	3.9	1.8	1.5	1.8	5.0
Apr 08	6.5	5.8	5.2	3.2	4.1	1.8	1.4	1.9	5.1
May 08	6.6	5.9	5.3	3.3	4.3	1.9	1.3	2.0	5.2
Jun 08	6.8	6.1	5.5	3.3	4.5	1.9	1.3	2.1	5.2
Onwards									
NILF									
Feb 78 to Sep 82	4.5	4.5	3.5	2.5	2.5	1.5	2.0	2.0	4.5
Oct 82 to Aug 87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep 87 to Aug 92	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Sep 92 to Aug 97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep 97 to Mar 01	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Apr 01 to Oct 07	5.9	4.8	4.4	2.5	2.9	1.3	1.8	1.3	5.3
Nov 07	6.0	4.9	4.5	2.5	3.0	1.4	1.7	1.4	5.3
Dec 07	6.1	5.0	4.5	2.6	3.0	1.4	1.6	1.4	5.4
Jan 08	6.2	5.1	4.6	2.6	3.1	1.4	1.5	1.4	5.4
Feb 08	6.2	5.2	4.7	2.7	3.2	1.4	1.4	1.5	5.5
Mar 08	6.6	5.4	4.8	2.7	3.6	1.4	1.2	1.5	5.6
Apr 08	6.7	5.6	5.3	2.9	3.7	1.5	1.1	1.6	5.7
May 08	6.8	5.7	5.5	2.9	3.9	1.5	1.1	1.6	5.8
Jun 08	6.9	5.9	5.6	3.0	4.0	1.5	1.0	1.7	5.8
Onwards									